

WHAT IS CLAIMED IS:

1. A method of making synthetic wood-like products of low density, stable dimension, wood-like surface quality, good flammability resistance and outdoor weather durability, which comprises:

A.) forming a mixture containing:

(a) about 70 to about 100 parts by weight of vinyl chloride resin;

(b) about 10 to about 100 parts by weight of a natural cellulosic product;

(c) about 0.5 to about 10 parts by weight of vinyl chloride resin foaming agent;

B.) mixing the aforesaid mixture in a hot mixer with frictionally induced heating to temperatures of at least about 80 degrees Celsius and below the fusion temperature of polyvinyl chloride;

C.) subsequently mixing the mixture from in hot mixer in a cold mixer while cooling said mixture to a temperature of about 25 degrees Celcius to about 60 degrees Celsius;

D.) plastify and extruding the mixture through a plastifying and extruding means; and

E.) cooling extruded product to create a synthetic wood-like product.

2. The method of claim 1 wherein said mixture further includes:

(d) about 0.1 to about 100 parts by weight of additives selected from the group consisting of heat stabilizers, processing aids, colorants, lubricants, fillers, flame retardants, ultraviolet light inhibitors, and mixtures thereof.

3. The method of claim 1 wherein said plastifying and extruding are performed in an extruder.

4. The method of claim 1 wherein said mixing in a hot mixer is performed to a temperature in the ranges of about 80 degrees Celsius to about 140 degrees Celsius.

5. The method of claim 1 wherein the extruded product is cooled in a calibrating system rapidly to quench the extruded product so as to form a solid skin, foam core synthetic wood-like product.

6. The method of claim 5 wherein said calibrating system includes a precalibrator

having a predetermined first thickness setting,
and a subsequent calibrator which has a
predetermined second thickness setting not less
than said predetermined first thickness setting.

7. The method of claim 6 wherein said calibrator
is fluid cooled so as to cool the extruded
product to a temperature range of about 5 to
about 60 degrees Celsius.

8. The method of claim 1 wherein said extruded
product is cooled slowly so as to form a foam
skin/ foam core synthetic wood product.

9. The method of claim 8 wherein said cooling is
performed in a roller system of a plurality of
contra-rotating rollers.

10. The method of claim 9 wherein said cooling is further performed on a plurality of support rollers after said plurality of contra-rollers.

11. The synthetic wood-like product resulting from the method of claim 1.

12. The synthetic wood-like product resulting from the method of claim 2.

13. The synthetic wood-like product resulting from the method of claim 3.

14. The synthetic wood-like product resulting from the method of claim 4.

15. The synthetic wood-like product resulting

from the method of claim 5.

16. The synthetic wood-like product resulting
from the method of claim 6.

17. The synthetic wood-like product resulting
from the method of claim 7.

18. The synthetic wood-like product resulting
from the method of claim 8.

19. The synthetic wood-like product resulting
from the method of claim 9.

20. The synthetic wood-like product resulting
from the method of claim 10.